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Guidelines for Effective School Health Education To Prevent the Spread of AIDS

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Guidelines for Effective School Health Education To Prevent the Spread of AIDS

Introduction

Since the first cases of acquired immunodeficiency syndrome (AIDS) were reported in the United States in 1981, the human immunodeficiency virus (HIV) that causes AIDS and other HIV-related diseases has precipitated an epidemic unprecedented in modern history. Because the virus is transmitted almost exclusively by behavior that individuals can modify, educational programs to influence relevant behavior can be effective in preventing the spread of HIV (1-5).

The guidelines below have been developed to help school personnel and others plan, implement, and evaluate educational efforts to prevent unnecessary morbidity and mortality associated with AIDS and other HIV-related illnesses. The guidelines incorporate principles for AIDS education that were developed by the President's Domestic Policy Council and approved by the President in 1987 (see Appendix I).

The guidelines provide information that should be considered by persons who are responsible for planning and implementing appropriate and effective strategies to teach young people about how to avoid HIV infection. These guidelines should not be construed as rules, but rather as a source of guidance. Although they specifically were developed to help **school personnel**, personnel from other organizations should consider these guidelines in planning and carrying out effective education about AIDS for youth who do **not** attend school and who may be at high risk of becoming infected. As they deliberate about the need for and content of AIDS education, educators, parents, and other concerned members of the community should consider the prevalence of behavior that increases the risk of HIV infection among young people in their communities. Information about the nature of the AIDS epidemic, and the extent to which young people engage in behavior that increases the risk of HIV infection, is presented in Appendix II.

Information contained in this document was developed by CDC in consultation with individuals appointed to represent the following organizations:

- American Academy of Pediatrics
- American Association of School Administrators
- American Public Health Association
- American School Health Association
- Association for the Advancement of Health Education
- Association of State and Territorial Health Officers
- Council of Chief State School Officers
- National Congress of Parents and Teachers
- National Council of Churches

National Education Association
National School Boards Association
Society of State Directors of Health, Physical Education,
Recreation and Dance
U.S. Department of Education
U.S. Food and Drug Administration
U.S. Office of Disease Prevention and Health Promotion

Consultants included a director of health education for a state department of education, a director of curriculum and instruction for a local education department, a health education teacher, a director of school health programs for a local school district, a director of a state health department, a deputy director of a local health department, and an expert in child and adolescent development.

Planning and Implementing Effective School Health Education about AIDS

The Nation's public and private schools have the capacity and responsibility to help assure that young people understand the nature of the AIDS epidemic and the specific actions they can take to prevent HIV infection, especially during their adolescence and young adulthood. The specific scope and content of AIDS education in schools should be locally determined and should be consistent with parental and community values.

Because AIDS is a fatal disease and because educating young people about becoming infected through sexual contact can be controversial, school systems should obtain broad community participation to ensure that school health education policies and programs to prevent the spread of AIDS are locally determined and are consistent with community values.

The development of school district policies on AIDS education can be an important first step in developing an AIDS education program. In each community, representatives of the school board, parents, school administrators and faculty, school health services, local medical societies, the local health department, students, minority groups, religious organizations, and other relevant organizations can be involved in developing policies for school health education to prevent the spread of AIDS. The process of policy development can enable these representatives to resolve various perspectives and opinions, to establish a commitment for implementing and maintaining AIDS education programs, and to establish standards for AIDS education program activities and materials. Many communities already have school health councils that include representatives from the aforementioned groups. Such councils facilitate the development of a broad base of community expertise and input, and they enhance the coordination of various activities within the comprehensive school health program (6).

AIDS education programs should be developed to address the needs and the developmental levels of students and of school-age youth who do not attend school, and to address specific needs of minorities, persons for whom English is not the primary language, and persons with visual or hearing impairments or other learning disabilities. Plans for addressing students' questions or concerns about AIDS at the early elementary grades, as well as for providing effective school health education about AIDS at each grade from late elementary/middle school through junior

high/senior high school, including educational materials to be used, should be reviewed by representatives of the school board, appropriate school administrators, teachers, and parents before being implemented.

Education about AIDS may be most appropriate and effective when carried out within a more comprehensive school health education program that establishes a foundation for understanding the relationships between personal behavior and health (7-9). For example, education about AIDS may be more effective when students at appropriate ages are more knowledgeable about sexually transmitted diseases, drug abuse, and community health. It may also have greater impact when they have opportunities to develop such qualities as decision-making and communication skills, resistance to persuasion, and a sense of self-efficacy and self-esteem. However, education about AIDS should be provided as rapidly as possible, even if it is taught initially as a separate subject.

State departments of education and health should work together to help local departments of education and health throughout the state collaboratively accomplish effective school health education about AIDS. Although all schools in a state should provide effective education about AIDS, priority should be given to areas with the highest reported incidence of AIDS cases.

Preparation of Education Personnel

A team of representatives including the local school board, parent-teachers associations, school administrators, school physicians, school nurses, teachers, educational support personnel, school counselors, and other relevant school personnel should receive general training about a) the nature of the AIDS epidemic and means of controlling its spread, b) the role of the school in providing education to prevent transmission of HIV, c) methods and materials to accomplish effective programs of school health education about AIDS, and d) school policies for students and staff who may be infected. In addition, a team of school personnel responsible for teaching about AIDS should receive more specific training about AIDS education. All school personnel, especially those who teach about AIDS, periodically should receive continuing education about AIDS to assure that they have the most current information about means of controlling the epidemic, including up-to-date information about the most effective health education interventions available. State and local departments of education and health, as well as colleges of education, should assure that such in-service training is made available to all schools in the state as soon as possible and that continuing in-service and pre-service training is subsequently provided. The local school board should assure that release time is provided to enable school personnel to receive such in-service training.

Programs Taught by Qualified Teachers

In the elementary grades, students generally have one regular classroom teacher. In these grades, education about AIDS should be provided by the regular classroom teacher because that person ideally should be trained and experienced in child development, age-appropriate teaching methods, child health, and elementary health education methods and materials. In addition, the elementary teacher usually is sensitive to normal variations in child development and aptitudes within a class. In the secondary grades, students generally have a different teacher for each subject. In

these grades, the secondary school health education teacher preferably should provide education about AIDS, because a qualified health education teacher will have training and experience in adolescent development, age-appropriate teaching methods, adolescent health, and secondary school health education methods and materials (including methods and materials for teaching about such topics as human sexuality, communicable diseases, and drug abuse). In secondary schools that do not have a qualified health education teacher, faculty with similar training and good rapport with students should be trained specifically to provide effective AIDS education.

Purpose of Effective Education about AIDS

The principal purpose of education about AIDS is to prevent HIV infection. The content of AIDS education should be developed with the active involvement of parents and should address the broad range of behavior exhibited by young people. Educational programs should assure that young people acquire the knowledge and skills they will need to adopt and maintain types of behavior that virtually eliminate their risk of becoming infected.

School systems should make programs available that will enable and encourage young people who **have not** engaged in sexual intercourse and who **have not** used illicit drugs to continue to—

- Abstain from sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage;
- Refrain from using or injecting illicit drugs.

For young people who **have** engaged in sexual intercourse or who **have** injected illicit drugs, school programs should enable and encourage them to—

- Stop engaging in sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage;
- To stop using or injecting illicit drugs.

Despite all efforts, some young people may remain unwilling to adopt behavior that would virtually eliminate their risk of becoming infected. Therefore, school systems, in consultation with parents and health officials, should provide AIDS education programs that address preventive types of behavior that should be practiced by persons with an increased risk of acquiring HIV infection. These include:

- Avoiding sexual intercourse with anyone who is known to be infected, who is at risk of being infected, or whose HIV infection status is not known;
- Using a latex condom with spermicide if they engage in sexual intercourse;
- Seeking treatment if addicted to illicit drugs;
- Not sharing needles or other injection equipment;
- Seeking HIV counseling and testing if HIV infection is suspected.

State and local education and health agencies should work together to assess the prevalence of these types of risk behavior, and their determinants, over time.

Content

Although information about the biology of the AIDS virus, the signs and symptoms of AIDS, and the social and economic costs of the epidemic might be of interest, such information is not the essential knowledge that students must acquire in order to prevent becoming infected with HIV. Similarly, a single film, lecture, or school assembly about AIDS will not be sufficient to assure that students develop the complex understanding and skills they will need to avoid becoming infected.

Schools should assure that students receive at least the essential information about AIDS, as summarized in sequence in the following pages, for each of three grade-level ranges. The exact grades at which students receive this essential information should be determined locally, in accord with community and parental values, and thus may vary from community to community. Because essential information for students at higher grades requires an understanding of information essential for students at lower grades, secondary school personnel will need to assure that students understand basic concepts before teaching more advanced information. Schools simultaneously should assure that students have opportunities to learn about emotional and social factors that influence types of behavior associated with HIV transmission.

Early Elementary School

Education about AIDS for students in early elementary grades principally should be designed to allay excessive fears of the epidemic and of becoming infected.

AIDS is a disease that is causing some adults to get very sick, but it does not commonly affect children.

AIDS is very hard to get. You cannot get it just by being near or touching someone who has it.

Scientists all over the world are working hard to find a way to stop people from getting AIDS and to cure those who have it.

Late Elementary/Middle School

Education about AIDS for students in late elementary/middle school grades should be designed with consideration for the following information.

Viruses are living organisms too small to be seen by the unaided eye.

Viruses can be transmitted from an infected person to an uninfected person through various means.

Some viruses cause disease among people.

Persons who are infected with some viruses that cause disease may not have any signs or symptoms of disease.

AIDS (an abbreviation for acquired immunodeficiency syndrome) is caused by a virus that weakens the ability of infected individuals to fight off disease.

People who have AIDS often develop a rare type of severe pneumonia, a cancer called Kaposi's sarcoma, and certain other diseases that healthy people normally do not get.

About 1 to 1.5 million of the total population of approximately 240 million Americans currently are infected with the AIDS virus and consequently are capable of infecting others.

People who are infected with the AIDS virus live in every state in the United States and in most other countries of the world. Infected people live in cities as well as in suburbs, small towns, and rural areas. Although most infected people are adults, teenagers can also become infected. Females as well as males are infected. People of every race are infected, including whites, blacks, Hispanics, Native Americans, and Asian/Pacific Islanders.

The AIDS virus can be transmitted by sexual contact with an infected person; by using needles and other injection equipment that an infected person has used; and from an infected mother to her infant before or during birth.

A small number of doctors, nurses, and other medical personnel have been infected when they were directly exposed to infected blood.

It sometimes takes several years after becoming infected with the AIDS virus before symptoms of the disease appear. Thus, people who are infected with the virus can infect other people—even though the people who transmit the infection do not feel or look sick.

Most infected people who develop symptoms of AIDS only live about 2 years after their symptoms are diagnosed.

The AIDS virus cannot be caught by touching someone who is infected, by being in the same room with an infected person, or by donating blood.

Junior High/Senior High School

Education about AIDS for students in junior high/senior high school grades should be developed and presented taking into consideration the following information.

The virus that causes AIDS, and other health problems, is called human immunodeficiency virus, or HIV.

The risk of becoming infected with HIV can be virtually eliminated by not engaging in sexual activities and by not using illegal intravenous drugs.

Sexual transmission of HIV is not a threat to those uninfected individuals who engage in mutually monogamous sexual relations.

HIV may be transmitted in any of the following ways: a) by sexual contact with an infected person (penis/vagina, penis/rectum, mouth/vagina, mouth/penis, mouth/rectum); b) by using needles or other injection equipment that an infected person has used; c) from an infected mother to her infant before or during birth.

A small number of doctors, nurses, and other medical personnel have been infected when they were directly exposed to infected blood.

The following are at increased risk of having the virus that causes AIDS and consequently of being infectious: a) persons with clinical or laboratory evidence of

infection; b) males who have had sexual intercourse with other males; c) persons who have injected illegal drugs; d) persons who have had numerous sexual partners, including male or female prostitutes; e) persons who received blood clotting products before 1985; f) sex partners of infected persons or persons at increased risk; and g) infants born to infected mothers.

The risk of becoming infected is increased by having a sexual partner who is at increased risk of having contracted the AIDS virus (as identified previously), practicing sexual behavior that results in the exchange of body fluids (i.e., semen, vaginal secretions, blood), and using unsterile needles or paraphernalia to inject drugs.

Although no transmission from deep, open-mouth (i.e., "French") kissing has been documented, such kissing theoretically could transmit HIV from an infected to an uninfected person through direct exposure of mucous membranes to infected blood or saliva.

In the past, medical use of blood, such as transfusing blood and treating hemophiliacs with blood clotting products, has caused some people to become infected with HIV. However, since 1985 all donated blood has been tested to determine whether it is infected with HIV; moreover, all blood clotting products have been made from screened plasma and have been heated to destroy any HIV that might remain in the concentrate. Thus, the risk of becoming infected with HIV from blood transfusions and from blood clotting products is virtually eliminated. Cases of HIV infection caused by these medical uses of blood will continue to be diagnosed, however, among people who were infected by these means before 1985.

Persons who continue to engage in sexual intercourse with persons who are at increased risk or whose infection status is unknown should use a latex condom (not natural membrane) to reduce the likelihood of becoming infected. The latex condom must be applied properly and used from start to finish for every sexual act. Although a latex condom does not provide 100% protection—because it is possible for the condom to leak, break, or slip off—it provides the best protection for people who do not maintain a mutually monogamous relationship with an uninfected partner. Additional protection may be obtained by using spermicides that seem active against HIV and other sexually transmitted organisms in conjunction with condoms.

Behavior that prevents exposure to HIV also may prevent unintended pregnancies and exposure to the organisms that cause Chlamydia infection, gonorrhea, herpes, human papillomavirus, and syphilis.

Persons who believe they may be infected with the AIDS virus should take precautions not to infect others and to seek counseling and antibody testing to determine whether they are infected. If persons **are not** infected, counseling and testing can relieve unnecessary anxiety and reinforce the need to adopt or continue practices that reduce the risk of infection. If persons **are** infected, they should: a) take precautions to protect sexual partners from becoming infected; b) advise previous and current sexual or drug-use partners to receive counseling and testing; c) take precautions against becoming pregnant; and d) seek medical care

and counseling about other medical problems that may result from a weakened immunologic system.

More detailed information about AIDS, including information about how to obtain counseling and testing for HIV, can be obtained by telephoning the AIDS National Hotline (toll free) at 800-342-2437; the Sexually Transmitted Diseases National Hotline (toll free) at 800-227-8922; or the appropriate state or local health department (the telephone number of which can be obtained by calling the local information operator).

Curriculum Time and Resources

Schools should allocate sufficient personnel time and resources to assure that policies and programs are developed and implemented with appropriate community involvement, curricula are well-planned and sequential, teachers are well-trained, and up-to-date teaching methods and materials about AIDS are available. In addition, it is crucial that sufficient classroom time be provided at **each** grade level to assure that students acquire essential knowledge appropriate for that grade level, and have time to ask questions and discuss issues raised by the information presented.

Program Assessment

The criteria recommended in the foregoing "Guidelines for Effective School Health Education To Prevent the Spread of AIDS" are summarized in the following nine assessment criteria. Local school boards and administrators can assess the extent to which their programs are consistent with these guidelines by determining the extent to which their programs meet each point shown below. Personnel in state departments of education and health also can use these criteria to monitor the extent to which schools in the state are providing effective health education about AIDS.

1. To what extent are parents, teachers, students, and appropriate community representatives involved in developing, implementing, and assessing AIDS education policies and programs?
2. To what extent is the program included as an important part of a more comprehensive school health education program?
3. To what extent is the program taught by regular classroom teachers in elementary grades and by qualified health education teachers or other similarly trained personnel in secondary grades?
4. To what extent is the program designed to help students acquire essential knowledge to prevent HIV infection at each appropriate grade?
5. To what extent does the program describe the benefits of abstinence for young people and mutually monogamous relationships within the context of marriage for adults?
6. To what extent is the program designed to help teenage students avoid specific types of behavior that increase the risk of becoming infected with HIV?
7. To what extent is adequate training about AIDS provided for school administrators, teachers, nurses, and counselors—especially those who teach about AIDS?

8. To what extent are sufficient program development time, classroom time, and educational materials provided for education about AIDS?
9. To what extent are the processes and outcomes of AIDS education being monitored and periodically assessed?

References

1. US Public Health Service. Coolfont report: a PHS plan for prevention and control of AIDS and the AIDS virus. Public Health Rep 1986;101:341.
2. Institute of Medicine. National Academy of Sciences. Confronting AIDS: directions for public health, health care, and research. Washington, DC: National Academy Press, 1986.
3. US Department of Health and Human Services, Public Health Service. Surgeon General's report on acquired immune deficiency syndrome. Washington, DC: US Department of Health and Human Services, 1986.
4. US Public Health Service. AIDS: information/education plan to prevent and control AIDS in the United States, March 1987. Washington, DC: US Department of Health and Human Services, 1987.
5. US Department of Education. AIDS and the education of our children, a guide for parents and teachers. Washington, DC: US Department of Education, 1987.
6. Kolbe LJ, Iverson DC. Integrating school and community efforts to promote health: strategies, policies, and methods. Int J Health Educ 1983;2:40-47.
7. Noak M. Recommendations for school health education. Denver: Education Commission of the States, 1982.
8. Comprehensive school health education as defined by the national professional school health education organizations. J Sch Health 1984;54:312-315.
9. Allensworth D, Kolbe L (eds). The comprehensive school health program: exploring an expanded concept. J Sch Health 1987;57:402-76.

Appendix I

The President's Domestic Policy Council's Principles for AIDS Education

The following principles were proposed by the Domestic Policy Council and approved by the President in 1987:

Despite intensive research efforts, prevention is the only effective AIDS control strategy at present. Thus, there should be an aggressive Federal effort in AIDS education.

The scope and content of the school portion of this AIDS education effort should be locally determined and should be consistent with parental values.

The Federal role should focus on developing and conveying accurate health information on AIDS to the educators and others, not mandating a specific school curriculum on this subject, and trusting the American people to use this information in a manner appropriate to their community's needs.

Any health information developed by the Federal Government that will be used for education should encourage responsible sexual behavior—based on fidelity, commitment, and maturity, placing sexuality within the context of marriage.

Any health information provided by the Federal Government that might be used in schools should teach that children should not engage in sex and should be used with the consent and involvement of parents.

Appendix II

The Extent of AIDS and Indicators of Adolescent Risk

Since the first cases of acquired immunodeficiency syndrome (AIDS) were reported in the United States in 1981, the human immunodeficiency virus (HIV) that causes AIDS and other HIV-related diseases has precipitated an epidemic unprecedented in modern history. Although in 1985, fewer than 60% of AIDS cases in the United States were reported among persons residing outside New York City and San Francisco, by 1991 more than 80% of the cases will be reported from other localities (1).

It has been estimated that from 1 to 1.5 million persons in the United States are infected with HIV (1), and, because there is no cure, infected persons are potentially capable of infecting others indefinitely. It has been predicted that 20%-30% of individuals currently infected will develop AIDS by the end of 1991 (1). Fifty percent of those diagnosed as having AIDS have not survived for more than about 1.5 years beyond diagnosis, and only about 12% have survived for more than 3 years (2).

By the end of 1987, about 50,000 persons in the United States had been diagnosed as having AIDS, and about 28,000 had died from the disease (2). Blacks and Hispanics,

who make up about 12% and 6% of the U.S. population, respectively, disproportionately have contracted 25% and 14% of all reported AIDS cases (3). It has been estimated that during 1991, 74,000 cases of AIDS will be diagnosed, and 54,000 persons will die from the disease. By the end of that year, the total number of deaths caused by AIDS will be about 179,000 (7). In addition, health care and supportive services for the 145,000 persons projected to be living with AIDS in that year will cost our Nation an estimated \$8-\$10 billion in 1991 alone (7). The World Health Organization projects that by 1991, 50-100 million persons may be infected worldwide (4). The magnitude and seriousness of this epidemic requires a systematic and concerted response from almost every institution in our society.

A vaccine to prevent transmission of the virus is not expected to be developed before the next decade, and its use would not affect the number of persons already infected by that time. A safe and effective antiviral agent to treat those infected is not expected to be available for general use within the next several years. The Centers for Disease Control (5), the National Academy of Sciences (6), the Surgeon General of the United States (7), and the U.S. Department of Education (8) have noted that in the absence of a vaccine or therapy, educating individuals about actions they can take to protect themselves from becoming infected is the most effective means available for controlling the epidemic. Because the virus is transmitted almost exclusively as a result of behavior individuals can modify (e.g., by having sexual contact with an infected person or by sharing intravenous drug paraphernalia with an infected person), educational programs designed to influence relevant types of behavior can be effective in controlling the epidemic.

A significant number of teenagers engage in behavior that increases their risk of becoming infected with HIV. The percentage of metropolitan teenage girls who had ever had sexual intercourse increased from 30%-45% between 1971 and 1982. The average age at first intercourse for females remained at approximately 16.2 years between 1971 and 1979 (9). The average proportion of never-married teenagers who have ever had intercourse increases with age from 14 through 19 years. In 1982, the percentage of never-married girls who reported having engaged in sexual intercourse was as follows: approximately 6% among 14-year-olds (10), 18% among 15-year-olds, 29% among 16-year-olds, 40% among 17-year-olds, 54% among 18-year-olds, and 66% among 19-year-olds (11). Among never-married boys living in metropolitan areas, the percentage who reported having engaged in sexual intercourse was as follows: 24% among 14-year-olds, 35% among 15-year-olds, 45% among 16-year-olds, 56% among 17-year-olds, 66% among 18-year-olds, and 78% among 19-year-olds (9,12). Rates of sexual experience (e.g., percentage having had intercourse) are higher for black teenagers than for white teenagers at every age and for both sexes (11,12).

Male homosexual intercourse is an important risk factor for HIV infection. In one survey conducted in 1973, 5% of 13- to 15-year-old boys and 17% of 16- to 19-year-old boys reported having had at least one homosexual experience. Of those who reported having had such an experience, most (56%) indicated that the first homosexual experience had occurred when they were 11 or 12 years old. Two percent reported that they currently engaged in homosexual activity (13).

Another indicator of high-risk behavior among teenagers is the number of cases of sexually transmitted diseases they contract. Approximately 2.5 million teenagers are affected with a sexually transmitted disease each year (14).

Some teenagers also are at risk of becoming infected with HIV through illicit intravenous drug use. Findings from a national survey conducted in 1986 of nearly 130 high schools indicated that although overall illicit drug use seems to be declining slowly among high school seniors, about 1% of seniors reported having used heroin and 13% reported having used cocaine within the previous year (15). The number of seniors who injected each of these drugs is not known.

Only 1% of all the persons diagnosed as having AIDS have been under age 20 (2); most persons in this group had been infected by transfusion or perinatal transmission. However, about 21% of all the persons diagnosed as having AIDS have been 20-29 years of age. Given the long incubation period between HIV infection and symptoms that lead to AIDS diagnosis (3 to 5 years or more), some fraction of those in the 20- to 29-year-age group diagnosed as having AIDS were probably infected while they were still teenagers.

Among military recruits screened in the period October 1985-December 1986, the HIV seroprevalence rate for persons 17-20 years of age (0.6/1,000) was about half the rate for recruits in all age groups (1.5/1,000) (16). These data have lead some to conclude that teenagers and young adults have an appreciable risk of infection and that the risk may be relatively constant and cumulative (17).

Reducing the risk of HIV infection among teenagers is important not only for their well-being but also for the children they might produce. The birth rate for U.S. teenagers is among the highest in the developed world (18); in 1984, this group accounted for more than 1 million pregnancies. During that year the rate of pregnancy among sexually active teenage girls 15-19 years of age was 233/1,000 girls (19).

Although teenagers are at risk of becoming infected with and transmitting the AIDS virus as they become sexually active, studies have shown that they do not believe they are likely to become infected (20,21). Indeed, a random sample of 860 teenagers (ages 16-19) in Massachusetts revealed that, although 70% reported they were sexually active (having sexual intercourse or other sexual contact), only 15% of this group reported changing their sexual behavior because of concern about contracting AIDS. Only 20% of those who changed their behavior selected effective methods such as abstinence or use of condoms (20). Most teenagers indicated that they want more information about AIDS (20,21).

Most adult Americans recognize the early age at which youth need to be advised about how to protect themselves from becoming infected with HIV and recognize that the schools can play an important role in providing such education. When asked in a November 1986 nationwide poll whether children should be taught about AIDS in school, 83% of Americans agreed, 10% disagreed, and 7% were not sure (22). According to information gathered by the United States Conference of Mayors in December of 1986, 40 of the Nation's 73 largest school districts were providing education about AIDS, and 24 more were planning such education (23). Of the districts that offered AIDS education, 63% provided it in 7th grade, 60% provided it in 9th grade, and 90% provided it in 10th grade. Ninety-eight percent provided medical facts about AIDS, 78% mentioned abstinence as a means of avoiding infection, and 70% addressed the issues of avoiding high-risk sexual activities, selecting sexual partners, and using condoms. Data collected by the National Association of State Boards of Education in the summer of 1987 indicated that a) 15 states had mandated comprehensive school health education; eight had mandated AIDS education; b) 12 had legislation pending on AIDS education, and six had state board of education

actions pending; c) 17 had developed curricula for AIDS education, and seven more were developing such materials; and d) 40 had developed policies on admitting students with AIDS to school (24).

The Nation's system of public and private schools has a strategic role to play in assuring that young people understand the nature of the epidemic they face and the specific actions they can take to protect themselves from becoming infected—especially during their adolescence and young adulthood. In 1984, 98% of 14 and 15 year-olds, 92% of 16 and 17 year-olds, and 50% of 18 and 19 year-olds were in school (25). In that same year, about 615,000 14- to 17-year-olds and 1.1 million 18- to 19-year-olds were not enrolled in school and had not completed high school (26).

References

1. US Public Health Service. Coolfont report: a PHS plan for prevention and control of AIDS and the AIDS virus. Public Health Rep 1986;101:341.
2. CDC. Acquired immunodeficiency syndrome (AIDS) weekly surveillance report—United States. Cases reported to CDC. December 28, 1987.
3. CDC. Acquired immunodeficiency syndrome (AIDS) among blacks and Hispanics—United States. MMWR 1986;35:655-8, 663-6.
4. World Health Organization. Special program on AIDS: strategies and structure projected needs. Geneva: World Health Organization, 1987.
5. CDC. Results of a Gallup Poll on acquired immunodeficiency syndrome—New York City, United States. MMWR 1985;34:513-4.
6. Institute of Medicine. National Academy of Sciences. Confronting AIDS: directions for public health, health care, and research. Washington, DC: National Academy Press, 1986.
7. US Department of Health and Human Services, Public Health Service. Surgeon General's report on acquired immune deficiency syndrome. Washington, DC: US Department of Health and Human Services, 1986.
8. US Department of Education. AIDS and the education of our children, a guide for parents and teachers. Washington, DC: US Department of Education, 1987.
9. Zelnick M, Kantner JF. Sexual activity, contraceptive use, and pregnancy among metropolitan-area teenagers: 1971-1979. Fam Plann Perspect 1980;12:230-7.
10. Hofferth SL, Kahn J, Baldwin W. Premarital sexual activity among United States teenage women over the past three decades. Fam Plann Perspect 1987;19:46-53.
11. Pratt WF, Mosher WD, Bachrach CA, et al. Understanding US fertility: findings from the National Survey of Family Growth, cycle III. Popul Bull 1984;39:1-42.
12. Teenage pregnancy: the problem that hasn't gone away. Tables and References. New York: The Alan Guttmacher Institute. June 1981.
13. Sorensen RC. Adolescent sexuality in contemporary America. New York, World Publishing, 1973.
14. Division of Sexually Transmitted Diseases. Annual Report, FY 1986. Center for Prevention Services, Centers for Disease Control, US Public Health Service, 1987.
15. Johnston LD, Bachman JG, O'Malley PM. Drug use among American high school students, college, and other young adults: national trends through 1986. Rockville, Md: National Institute on Drug Abuse, 1987.
16. CDC. Trends in human immunodeficiency virus infection among civilian applicants for military service—United States, October 1985-December 1986. MMWR 1987;36:273-6.
17. Burke DS, Brundage JF, Herbold JR, et al. Human immunodeficiency virus infections among civilian applicants for United States military service, October 1985 to March 1986. N Engl J Med 1987;317:131-6.
18. Jones EF, Forrest JD, Goldman N, et al. Teenage pregnancy in developed countries: determinants and policy implications. Fam Plann Perspect 1985;17:53-63.
19. National Research Council. Risking the future: adolescent sexuality, pregnancy, and child-bearing (vol. 1). Washington, DC: National Academy Press, 1987.
20. Strunin L, Hingson R. Acquired immunodeficiency syndrome and adolescents: knowledge, beliefs, attitudes, and behaviors. Pediatrics 1987;79:825-8.

21. DiClemente RJ, Zorn J, Temoshok L. Adolescents and AIDS: a survey of knowledge, attitudes, and beliefs about AIDS in San Francisco. *Am J Public Health* 1986;76:1443-5.
22. Yankelovich Clancy Shulman. Memorandum to all data users from Hal Quinley about Time/Yankelovich Clancy Shulman Poll findings on sex education, November 17, 1986. New York City: Yankelovich Clancy Shulman, 1986.
23. United States Conference of Mayors. Local school districts active in AIDS education. *AIDS Information Exchange* 1987;4:1-10.
24. Cashman J. Personal communication on September 8, 1987, about the National Association of State Boards of Education survey of state AIDS-related policies and legislation. Washington, DC: National Association of State Boards of Education.
25. US Department of Commerce, Bureau of the Census. Statistical abstract of the United States, 105th ed. Washington, DC: US Department of Commerce, 1985.
26. US Department of Commerce, Bureau of the Census. School enrollment—social and economic characteristics of students: October 1984. Current Population Reports. Washington, DC: US Department of Commerce, 1985 (Series P-20, No. 404).

Additional copies may be requested from the National AIDS Information Clearinghouse, "Guidelines for Effective School Health Education to Prevent the Spread of AIDS" P.O. Box 6003 Rockville, Maryland 20850.